

## A New Species of the Genus *Ballistura* (Isotomidae: Collembola) from Lake Shore of Yasaka Dam, Hiroshima, Japan

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**Abstract** About a thousand individuals of Collembola were collected with bait traps set at the lake shore of Yasaka dam, Hiroshima, Japan. The species resembles *Ballistura lamelligera* (Börner, 1909) in having tenent hairs on tibiotarsus, but it is clearly different in several features from other species of the genus. It is described here as a new species, *B. yasakaensis* Tanaka and Nijima.

**Key words:** aquatic species, bait trap, *Ballistura yasakaensis*, Collembola, Hiroshima

Börner (1909) made *Proisotoma schoetti* (Dalla Torre, 1895) type of the subgenus *Ballistura* and later Stach (1947) raised its status to genus, which is composed of superficially aquatic species. Many species of the genus were reported from the Holarctic region (Babenko & Fjellberg, 2006; Christiansen, 1958; Christiansen & Bellinger, 1998; Dunger, 1982; Potapov, 2001), but only two species have so far been reported from the Oriental region (Uchida, 1949; Yosii, 1966) and one from Hawaii (Christiansen & Bellinger, 1992). Only *B. schoetti*, a cosmopolitan species, is distributed in the Neotropical, Ethiopian, Antarctic and Australian regions (Greenslade, 1994, 2006; Heckman, 2001; Mari Mutt & Bellinger, 1990; Yosii, 1959).

Yosii (1977) listed four species of *Ballistura* from Japan, but one of them, *B. lamelligera* (Börner, 1909), may be doubtful, because it was described on only one specimen, and has never been collected since. Potapov (2001) regarded the genus as part of a *Proisotoma*-complex and gave a new definition. He changed *B. stricta* (Yosii, 1939) and *B. takeshitai* (Kinoshita, 1916) into *Pachyotoma stricta* and *P. takeshitai*, respectively. On the other hand, he left *B. yosii* (Stach, 1947) intact.

About a thousand individuals of *Ballistura* sp., in the sense of Potapov (2001), were collected with bait traps, which were set at the lake shore of Yasaka dam, Hiroshima. The new species is similar to *B. lamelligera*, but is clearly different from other species of the genus and is therefore described as a new species.

*Ballistura yasakaensis* sp. nov

[Japanese name: Yasaku-mizuguiwa-tobimusi]

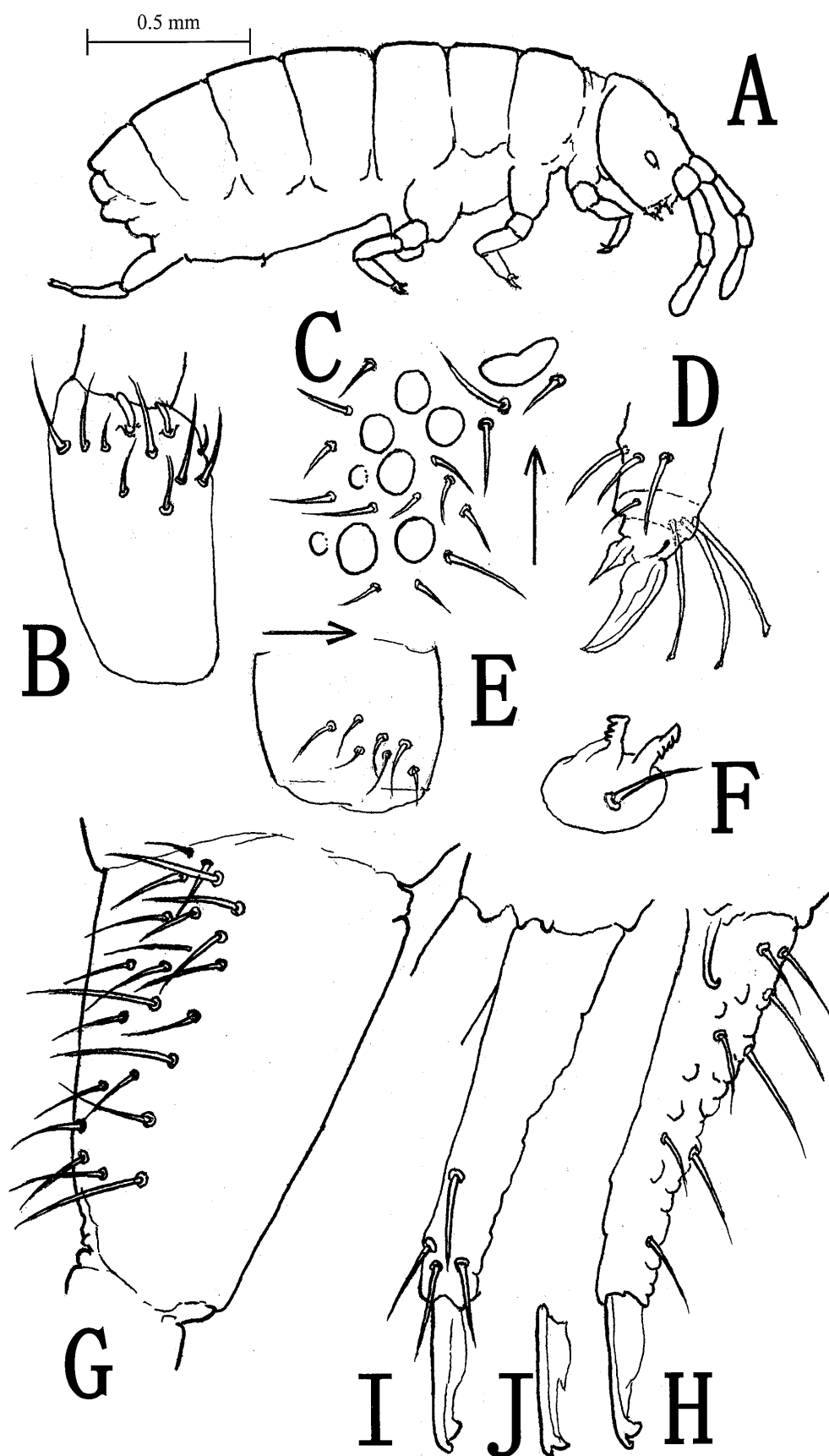
(Figs. 1)

Body color entirely dark violet, almost black, though furca paler, and about 2 mm long. Body densely clothed with short setae arranged in 7-10 irregular transverse rows on tergites of Abd. I - III. Along median line on ventral side of the segments, setae absent in one third of width. Setae almost equally long on whole body. All setae smooth, acuminate. Skin finely granulated to be seen only under greater enlargement.

Antennae longer than head (as 10:7). Relative lengths of antennal segments I : II : III : IV as 2 : 7 : 6 : 10. Ant. III organ consisting of two blunt rods and a pair of fine hairs (Fig. 1-B). Ant. IV with an apical cone. PAO elliptical, with a slight constriction in middle, two times longer than one eye. Eight eyes on each side of head, two of them being small and obscure (Fig. 1-C).

Tibiotarsus with distal subsegment, and with 2, 3, 3 tenent hairs (Fig. 1-D). Unguis somewhat stout without inner and lateral tooth. Unguiculus acute, smaller than half of unguis, without tooth.

Abd. V distinctly separated from VI, though the latter small and hardly visible from above (Fig. 1-A). Ventral tube with 5 - 7 setae laterally (Fig. 1-E). Rami of tenaculum quadridentate, corpus with a seta (Fig. 1-F). Furcula reaches the middle of Abd. II. Length ratio of manubrium : dens :



**Fig. 1.** *Ballistura yasakaensis* sp. nov. A, Habitus; B, Ant. III organ; C, PAO and eyes; D, Hind leg; E, Ventral tube; F, Tenaculum; G, Lateral view of manubrium; H, Dens and mucro from dorsal side; I, Ditto, from ventral side; J, Mucro.

mucro as 15 : 16 : 6. Manubrium dorsally with about 22 ~ 24 pairs of setae (Fig. 1-G), and ventrally without seta. Dens dorsally crenulated, with 8 - 10 setae (Fig. 1-H), and ventrally with 3+1 distal setae (Fig. 1-I). Mucro slender, bidentate distally; subapical tooth stout, larger than apical tooth, being lamellated and swelling basally (Fig. 1 - H, J). Occasionally, the lamella likely to have a small tooth (Fig. 1-I).

**Holotype:** Lake shore of Yasaka dam, Otake City, Hiroshima Pref. 20 - V - 2005, Shingo Nakamura leg. **Paratypes:** 5 exp., same date as for holotype. Holotype (Type No. 3151 Kyushu Univ.) and 5 paratypes are deposited in Entomological laboratory, Faculty of Agriculture, Kyushu University.

**Remarks:** This species resembles *B. lamelligera* (Börner, 1909) by possessing tenent hairs on tibiotarsus, but the cited species is distinguished from this species by the following points : in the cited species PAO is subequal to ocelli : tibiotarsus with 2, 2, 2 tenent hairs ; dens shorter than manubrium, with 6 distal setae ventrally.

**Etymology:** The specific name is derived from the name of the type locality.

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### 摘 要

田中真悟 (〒 819-0041 福岡県西区拾六町 5-9-40), 新島溪子 (〒 168-0064 東京都杉並区永福 4-12-18) : 広島県弥栄ダム湖岸で採集したミズギワトビムシ属の一新種.

広島県大竹市弥栄ダム湖岸に設置したバイトトラップで約千個体採集されたトビムシは *Ballistura lamelligera* (Börner, 1909) に類似していた. しかし, 触角後器の大きさ, 脛付節の粘毛の数, 跳躍器の形態などの点で, 今までに報告されたミズギワトビムシ属のどの種とも異なるので, 新種 *Ballistura yasakaensis* として報告し, 和名をヤサカミズギワトビムシとした.

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